INSTRUCTIONS FOR THE INSTALLATION AND OPERATION OF 06000 HAYMAN REESE COMPACT IQ™ PROPORTIONAL, REMOTE MOUNTED BRAKE CONTROL

FOR 1, 2 AND 3 AXLE BRAKE SYSTEMS

IMPORTANT SAFETY INFORMATION

⚠WARNING

To prevent SERIOUS INJURY, DEATH or PROPERTY DAMAGE:

- **ALWAYS read, understand and follow all warnings and instructions for your Brake Control Unit BEFORE installation. Keep for future reference.**
- **CHECK your Brake Control Unit, LED Indicator, and Power Output / BOOST Control are securely mounted to your vehicle periodically.**
- **INSPECT and ADJUST your trailer brakes every 3000 miles or as use and performance requires.**
- **ALWAYS read, understand and follow all warnings and instructions for your vehicle and for your trailer BEFORE use.**
- **LOAD the trailer heavier in front.**
- **NEVER exceed the lowest rated capacity of either your vehicle, hitch or trailer. Consult the owner's manual for your vehicle and your trailer.**
- **TEST your BRAKE CONTROL UNIT settings each time a trailer is attached to your vehicle.**
- **ALWAYS wear your seatbelt.**
- **SLOW DOWN when towing, NEVER exceed any posted speed limit.**

1. THIS PACKAGE INCLUDES

(1) Brake Control Unit
(1) Instructions for Installation and Operation
(1) Hardware Kit, (2 Knobs, LED Holder, Dash Mount Label, Foam Pad, Bracket, Nut, Washer Screw)
(1) Warranty Sheet – 3 Yr. Limited Warranty

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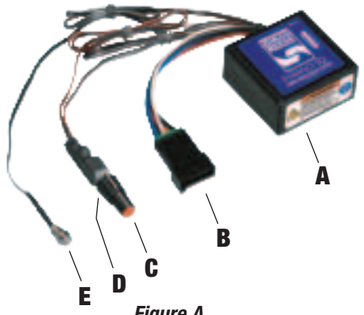


Figure A

1.1 Components Of The Brake Control (Figure A)

A. Brake Control Unit
B. SmartClick™Connector
C. Power Output Control/Manual Override Button
D. Boost Control
E. LED Indicator

2. INSTALLATION INSTRUCTIONS

⚠If you need additional assistance or do not have the tools required for the installation, stop the installation and contact a professional installer.

2.1 Tools Required

- Drill with 9.1mm (23/64in) and 8.0mm (5/16in) bits
- Wire Connector Crimp Tool
- Wire Cutter/Stripper
- Probe Type Circuit Tester

2.2 Material Required

- 12 Gauge, or larger wire
- 20 amp for 1-2 axles, 30 amp for 3 axles, Automatic Reset Circuit Breaker
- Assorted Ring Terminals and Butt Connectors

2.3 Mounting Power Output / BOOST Control and LED Indicator

The Power Output and LED Indicator are designed to be mounted on or around the vehicle dashboard and when installed correctly will comply with Australian Design Rule (ADR) 21/00 which sets forth requirements for devices mounted to the vehicle dashboard.

NOTE:

The Power Output / BOOST control can be mounted either vertically or horizontally. For horizontal mounting, cut the dash mounting label.

⚠WARNING

To prevent SERIOUS INJURY, DEATH or DAMAGE to vehicle, make sure area behind the dash panel is clear before drilling or mounting bracket with screw.

1. Select a suitable mounting location for the Power Output / BOOST control and LED Indicator.
2. Remove the panel and mark the surface for the centers of the controls.
3. Drill the top hole for the LED using an 8.0mm (5/16in) bit.
4. Drill the bottom hole for the Power Output / BOOST control using a 9.1mm (23/64) bit.
5. Attach the descriptive label over each hole.
6. Install the Power Output / BOOST control through the hole with the flat side of the control down.
7. Install the washer and nut and tighten securely. Do not over tighten.
8. Rotate both shafts counter-clockwise until they stop and install the larger knob on the outer shaft with the pointer at the 7 o'clock position.
9. Install the red knob on the inner shaft with the pointer at the (-) minimum position (7 o'clock).
10. Install the LED Holder in the top hole with a nut and washer, and securely tighten the nut. Do not over tighten.
11. Press the LED into the rear of the LED Holder.

2.4 Mounting The Compact™ IQ

⚠WARNING

- **Correct Orientation And Mounting Of The Brake Control Unit Is Required For Proper Operation.**
- **The Brake Control Must Be Securely Mounted To A Solid Surface. Do Not Tie Wrap.**

2.4.1 Orientation to Direction of Travel

For proper operation, the Compact™ IQ MUST be mounted with the arrow on the label in the direction of travel.

NOTE:

1. **Front of the Compact IQ must be horizontal (+/- 20 degrees). See Figure B.**
2. **The Compact IQ must be parallel to direction of travel (+/- 20 degrees). See Figure B.**

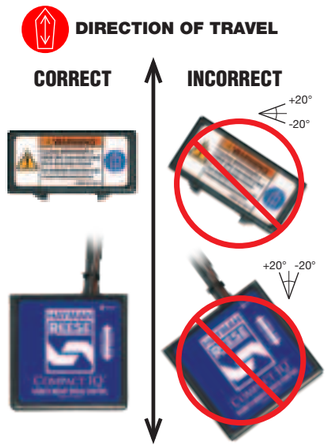


Figure B

The Compact IQ™ can be mounted out of sight under dash. It can even be mounted at any rotation angle (0 to 360 degrees), as long as the arrow on the label is such that it is pointing in the direction of travel. The Compact IQ™ as viewed from the side (Figure C):

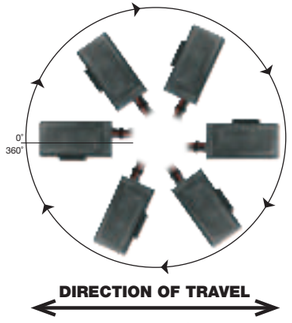


Figure C

To Mount:

1. Determine mounting location based on direction of travel.
2. Select bracket or foam pad for installation.

Option 1 – Bracket

Slide bracket until locking tab is engaged with the bracket. Using supplied screw, attach unit to desired location.

Option 2 – Foam Pad

Remove tape from one side, firmly attach to unit. Remove tape from other side and firmly attach unit to desired location.

2.5 WIRING THE BRAKE CONTROL

The Compact IQ™ comes equipped with a SmartClick™ plug exiting at the back of the control.

OPTION 1: Plug & Play

If your vehicle came equipped with a factory tow package, brake control function wires with a connector may exist under the vehicle dash. Consult the vehicle manual or call for the location of the harness. A vehicle specific Plug and Play harness may be purchased separately. For easy installation simply plug the vehicle specific connector into the factory tow package harness and plug the other end directly into the SmartClick™ Connector on the brake control. Continue to **Controls & Indicators**.

OPTION 2: Universal Installation

Important Facts to Remember

⚠WARNING

- **Reversing BLACK and WHITE wires or improper wiring will damage or destroy brake control.**
- **Be sure to solidly connect all four wires or brake control will not function properly.**
- **Use of proper gauge wire when installing the brake control is CRITICAL; smaller gauge wire may result in less than efficient braking. Minimum wire gauges are as follows:**
  - **1-2 axle applications - 14 GA.**
  - **3 axle applications – 12 GA.**

1. The brake control must be installed with a 12 volt negative ground system.
2. Soldering is recommended or crimp-on butt connectors are a suitable substitution.
3. Route all wires as far from the radio antenna as possible to reduce AM interference.
4. Collection of water inside the trailer connector mounted on the tow vehicle will reduce the life of the connector.

Remove the SmartClick™ Connector on the brake control box and splice the wires to the function wires as shown in Figure D.

Wiring Legend

BLACK Wire (Positive Battery)
WHITE Wire (Negative Battery)
RED Wire (cold side of stoplight switch)
BLUE Wire (brake output to trailer)

⚠WARNING

Inadequate grounding may cause intermittent braking or lack of sufficient voltage to trailer brakes and may result in accidents. The WHITE wire must be connected to a suitable ground location. The negative terminal of the battery is a suitable ground location in the absence of a Trailer Tow Package connection.

1. Connect BLACK (+) wire through an automatic reset circuit breaker (20 amp for 1-2 axles, 30 amp for 3 axles) to the POSITIVE (+) terminal of the battery. The BLACK wire is the power supply line to the brake control.
2. The RED (stoplight) wire must be connected to the cold side of the brake pedal stoplight switch. Splice down line from the switch; DO NOT disturb the position of the switch.
3. The BLUE (brake output) wire must be connected to the trailer connector's brake wire.

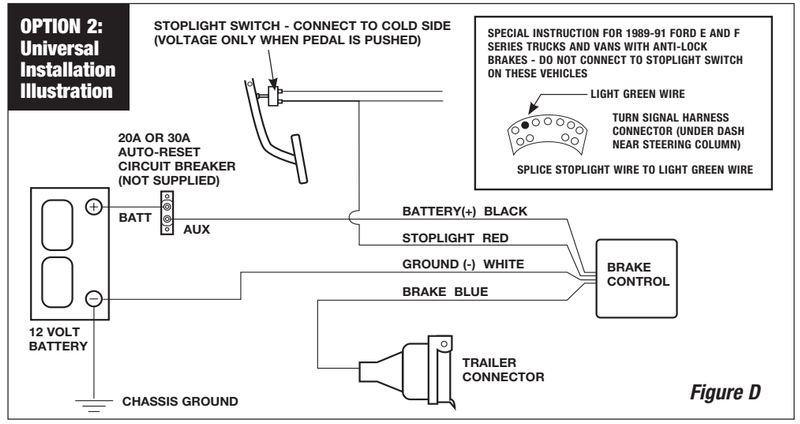


Figure D

3. CONTROLS & INDICATORS

3.1 LED INDICATOR

The LED Indicator will be:

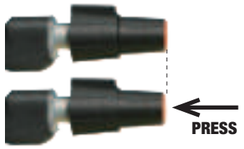
- OFF when the trailer is not connected, the unit is asleep, or there is no power to the unit.
- Green when the unit is awake and the trailer is connected.
- Red when the trailer brakes are applied either by the depressing the vehicle brake pedal or by pressing the Manual Override button (with or without a trailer attached).
- Flashing Red when there is a potential issue that may not allow the Brake Control to function as intended.

LED Color	Possible Conditions
No LED (OFF) ○	• No Trailer Detected • Unit is Asleep • No Power to Unit
Green LED	• Trailer Detected • Manual ON, Power set to Minimum • Brake Pedal ON, Power set to Minimum
Red LED	• Brake Pedal Depressed • Manual Button Pressed • Voltage to Trailer Magnets
Red LED Flashing	• Shorted Brake Magnets • Shorted Trailer Wiring • Open Ground Connection to Vehicle Battery

3.2 Power Output Control

The Power Output control is located on the rotary control with the red knob. It establishes the maximum amount of power available to the trailer brakes. The Power Output control should be adjusted when trailer load changes, when different trailers are used, or when road conditions change.

As the Power Output control is rotated from minimum (-) to maximum (+), more power will be available to the brakes when the brake pedal is pressed or the Manual Override button is used.



3.3 Manual Override Button

The Manual Override button is located on the Power Output control and only applies the trailer brakes. It should be used in situations when it is desirable to reduce speed slowly.

When the Manual Override button is pushed, the output voltage will ramp up power to the trailer brakes to the maximum power set by the user in about ½ second.

3.4 BOOST SETTING

⚠ WARNING

To prevent SERIOUS INJURY or DEATH:

- **NEVER use the BOOST feature to compensate for a potential problem with your trailer brakes. Have your trailer brakes adjusted or repaired immediately.**
- **ALWAYS select your boost setting based on your towing situation, driving preference and condition of your trailer brakes.**
- **DO NOT use BOOST during icy road conditions.**

BOOST Control may be adjusted for individual driver preference or changing road conditions. The BOOST control is located on the rotary control with the larger knob with the white line.

The BOOST setting is designed to allow a more aggressive setting for your trailer brakes and has four (4) levels: **B0**, **B1**, **B2**, and **B3**. Each BOOST setting level increases the sensitivity of the Brake Control Unit's inertial sensor, enhancing the participation of the trailer brakes during a braking event:

- For **B0** [BOOST off], the braking power will start at 0% and will increase with deceleration.
- For **B1** [BOOST Level 1], the braking power will automatically start at approximately 15% of the power setting and will increase with deceleration.
- For **B2** [BOOST Level 2] or **B3** [BOOST Level 3], the braking power will automatically start at approximately 30% of the power setting and will increase with deceleration.

Some scenarios where you may want to use the BOOST settings:

- You like the trailer braking to "LEAD" the tow vehicle's braking
- Towing a full vs. empty trailer
- Degraded brake performance (most electric brakes require manual adjustment – see Appendix A or a dealer for adjustment or repair)

See the chart below for recommended "Boost" settings (indicated with an "X") for typical Trailer to Vehicle weight relationships.

3.4.1 Typical BOOST Settings For Optimal Performance (with properly adjusted trailer brakes*)

Typical BOOST Settings For Optimal Performance (with properly adjusted trailer brakes*)

TRAILER WEIGHT compared to VEHICLE WEIGHT	B0	B1	B2	B3
	BOOST "OFF"	➧ INCREASING BOOST LEVEL ➧		
Trailer weighs **LESS** than Vehicle	X	X		
Trailer weighs **APPROXIMATELY SAME** as Vehicle	X	X	X	
Trailer weighs **UP TO 25% MORE** than Vehicle		X	X	X
Trailer weighs **UP TO 40% MORE** than Vehicle			X	X
Trailer weighs **OVER 40% MORE** than Vehicle	**⚠ WARNING** Do not exceed Gross Combined Weight Rating (GCWR)			X

*Increased BOOST setting may be needed if trailer brakes are worn, see Appendix A or a dealer for brake adjustment or repair.

4. SETUP

⚠ WARNING

TEST Your Brake Control Unit Settings Before Each Use:

- **The Power Output should never be set high enough to cause trailer brakes to lock up. Skidding trailer wheels can cause loss of directional stability of trailer and tow vehicle.**
- **Not all trailer brakes will lock up due to various conditions. If you trailer brakes will not to lock up, you will need to determine the cause.**
- **Setting the brake control too aggressively could cause brake pulsing when towing with hazard flashers on. If such settings are necessary, a pulse preventer can be installed.**
- **DO NOT use BOOST during icy road conditions.**

NOTE:

The Power Control setting and BOOST control may need to be adjusted for different load weights and road conditions. This brake control unit is suitable for all trailers with 12V electric brakes and with up to 3 axles. For trailers over 4.5 tonnes (9,900 lbs.) gross trailer weight, special testing is required under Australian Design Rules and you will need to consult with an automotive safety engineer before using this Brake Control Unit.

1. Connect trailer to your vehicle.
2. ALWAYS warm the trailer brakes before setting the Power Output.

   To warm trailer brakes, drive a short distance (0.4 km or ¼ mile) at about 70 kph (45 MPH) pressing the Manual Override button with the Power Output control at a low setting to allow the trailer brakes to engage at a low level.
3. When the Power Output control is set correctly, you should feel unified braking between the trailer and tow vehicle. With a trailer connected, set the BOOST level to the **B0** position. Starting with the Power Output control in the lowest position (all the way left), roll forward slowly and stop. If no trailer braking is felt, increase the Power Output control slightly by turning the knob to the right. Repeat this process until you feel firm trailer braking. If the trailer brakes lock-up or jerk, lower the Power Output control by turning slightly to the left.
4. For larger trailers, you may need to move the BOOST control to the **B1**, **B2** or **B3** position and repeat Step 3 to adjust the Power Output.
5. Test drive at about 35 KPH (20 MPH) and make several stops. Adjust the BOOST setting and Power Output control until stops are smooth and firm or at the desired level. Slight adjustments of the Power Output control may also be desirable.

Appendix A: Trailer Brake Adjustment

Brakes should be adjusted after the first 320km (200 miles) of operation when the brake shoes and drums have "seated" at 4,800km (3,000 miles) intervals, or as use and performance requires. The brakes should be adjusted in the following manner:

1. Jack up trailer and secure on adequate capacity jack stands. Follow trailer manufacturers recommendations for lifting and supporting the unit. Check that the wheel and drum rotate freely.

⚠ WARNING

NEVER lift or support your trailer on any part of the axle or the suspension system.

2. Remove the adjusting hole cover from the adjusting slot on the bottom of the brake backing plate.
3. With a screwdriver or standard adjusting tool, rotate the starwheel of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.

NOTE:

With drop spindle axles, a modified adjusting tool with about an 80 degree angle should be used.

4. Then rotate the starwheel in the opposite direction until the wheel turns freely with a slight lining drag.
5. Replace the adjusting hole cover and lower the wheel to the ground.
6. Repeat the above procedure on all brakes.

⚠ WARNING

To prevent SERIOUS INJURY or DEATH:

- **BEFORE getting under the trailer, ALWAYS block the trailer tires and use jack stands that are properly placed on firm ground and have sufficient capacity for your trailer. DO NOT lift or place supports on any part of the suspension system.**
- **ALWAYS follow your trailer manufacturer's recommendations for lifting and supporting the unit.**

For Technical Assistance and Warranty Information call: 1-800-812-017 or www.haymanreese.com.au